Helping Undergraduates Think Like A CEO:
The APPLE Analysis as a Teaching Tool for Strategic Management

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ABSTRACT

This paper presents a class assignment, entitled the APPLE Analysis, for developing pre-analysis comprehension about company conditions, resources and challenges as a part of the undergraduate strategic management capstone course. Because undergraduate students lack the causal maps of seasoned executives, this assignment helps students to develop an appropriate frame of reference to then tackle more traditional external/internal approaches to strategic analysis as a part of a live consulting case. The article describes the background for the development of the assignment, the components of each application tool and its assessment, and then summarizes with a description of student perceptions and outcomes. The results of its first application indicate strong student support for its ability to deliver on content outcomes, with 74.9% noting its value in understanding course and analytical concepts, and an ANOVA analysis of the differences in final project analysis scores in the semester post-adoption to be significantly higher at the .10 level (F=2.944; p = .092) than scores in the semester pre-adoption when controlling for professor. Faculty also noted stronger integration of multiple levels and breadth of analysis for the more traditional live case consulting analysis.

Keywords: Strategic management, teaching tools, experiential learning, undergraduate, mental models

Introduction

Strategic Management is traditionally offered as a capstone course in colleges of business. Classic strategic management scholars noted that strategic management is organization building that results from the interpretation of reality (Smircich & Stubbart,1985), but more recent scholars have suggested that sometimes a limited focus is made in both evaluating and teaching strategic management through "a narrow pragmatism … deeply rooted in the managerial functionalist paradigm" (Levy, Alvesson & Willmott, 2003, p. 92). This critique suggests that strategic management teaching may overly emphasize a linear and predictive analytical stream that omits crucial understandings of both the process by which current strategies were developed and the institutional and political relationships that characterize the settings through which future strategies may evolve. A specific, directed authentic learning may engender a more holistic perspective in approaching analysis (Hui & Koplin, 2011), and therefore help undergraduate students move away from relying on a linear process of analysis.

The Challenge of Teaching "Perspective" in the Strategic Management Classroom

While strategic management courses continuously change in response to the evolution of the field, most involve a focus on at least one "strategic assessment" assignment that seeks to accomplish three learning goals simultaneously: (1) to incorporate the cross-disciplinary learning already acquired in the students' curriculum, (2) to familiarize them with historically adopted tools and processes of analysis in the field, and (3) to adopt and embrace a top management perspective (Levy, Alvesson & Willmott, 2003). Traditional strategic management instruction focuses on context analysis, strategy formulation and implementation. Often assignments are adopted that include evaluating a focal company with or without the benefit of a published case. A more recent trend in strategic management courses moves away from lecture-based or case-based formats to one emphasizing an applied authentic project (Lee, 2012) and realistic problem solving (Lewis, 2011) to develop an appreciation not only of the theoretical understanding of the subject but also understanding of the practical conditions of business (Ambroshini, Billsberry, & Collier, 2009).
Since the goal of the strategic management course experience is often to address the three-fold agenda noted above, and because undergraduate students usually lack experience in top-management roles prior to taking the class, we observed that students sought to adopt standard analytical tools associated with the course, but their results often lacked the depth of comprehension of factors for which a seasoned CEO would have implicit appreciation. In such cases, the resulting recommendations for future action often proved somewhat superficial (Lee, 2012).

Critical insights are available from several fields on how to engender more substantive analytical outcomes. The leadership literature reinforces the need for layers of analytical and applied skills by strategists.   Mumford, Campion, and Morgeson (2007) described a leadership skills strataplex articulating the layered nature of cognitive (information processing), interpersonal (social

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processing), business skill (resource management processing) and strategic skill requirements (causal maps and visioning). They suggested that focus on these different skills areas differed by the leader's level within the organization. Top-level managers needed to identify causal relationships within the organizational environment and act appropriately to refocus organizational resources effectively to achieve long-term visions of new positions. Jaques' (1978) seminal Stratified Systems Theory (SST) described the unique focus of top-level managers as one of managing complexities and ambiguities that impact how resources should be managed to drive future action.   Lewis (2011) noted a concern that future business leaders are able to leverage traditional analytical tools to arrive at more creative business solutions that strategically fit the actual conditions the firm faces.

This need for developing a perspective of the firm that incorporates causal linkages and appreciates complexities is challenged by at least two particular challenges among undergraduate students. First, undergraduate students lack experience in building causal maps (Mumford et al., 2007) undergirding top-level executives' decision making frameworks.   Second, undergraduates often lack critical thinking skills. A recent survey conducted by the Society for Human Resource Management (2012) found that 38% of the 138 companies responding noted that undergraduates they had hired seemed to lack applied skills in critical thinking, the second-most identified weakness of undergraduate students hired in 2012. However, Paul (2000) noted that students trained in their discipline in critical thinking could replicate those skills later. Thus, not only do undergraduate strategic management students face the challenge of limited experience to organically hone their strategic skill sets, but they also appear to be challenged with a lack of basic ability to manage the process of thinking through company facts to arrive at complex solutions. In this instance, identifying and assembling a set of traditional analytical tools (e.g., external and internal environmental analyses, SWOT analysis, recommendations) used in the strategic management classroom may be of limited utility without further assistance. These students may not be capable of reaching deeper insights into the firm's future without first being shown how to develop an appropriate frame of reference for the firm's present conditions.   Having this ability to grasp the relevant context would prepare the student for a greater appreciation of the firm's present situation prior to the employment of more traditional analyses found in strategic management classes. Thus, we propose that an active learning experience exercise be adopted prior to the application of traditional analytical tools to enable students to better develop a frame of reference to understand course concepts more effectively and apply those concepts more clearly and consistently through the application of the traditional analytical tools. Therefore, we propose the following hypothesis:

> **H1**: Students who complete a pre-analytical frame of reference assignment will find the assignment valuable to understanding course analytical concepts.

Critical thinking requires that conclusions or recommendations reached through the process are based upon claims that have been shown to be valid (Lewis, 2011). In many strategic management classrooms, traditional external and internal analyses are conducted resulting in SWOT analysis that is then

used to justify directions for future actions. However, this approach makes an implicit assumption that the analyst already understands the company and its context relatively well. Given that a misunderstanding of the range and scope of the firm will precipitate an inaccurate evaluation, it becomes clear that developing a clear frame of reference for the firm's current range and scope is critical. Attention to metacognition (i.e., thinking about thinking strategically) provides a basic framework for making such linkages explicit (Flavell, 1979). It stands to reason that if the analyst cannot demonstrate such depth and accuracy, then any analyses and recommendations for further action will be suspect and therefore of limited value to the firm (Lee, 2011). Thus, good strategic analysis must begin by setting the frame of reference such that an explicit appreciation of that current context can be communicated in every part of the analysis. Thus, we expect that undergraduate student teams who complete a frame of reference assignment will have stronger and more viable analyses and recommendations than those who did not complete such assignments.

> **H2**: Teams that completed a pre-analytical frame of reference assignment will have higher final project grades than those that did not complete the assignment as part of their consulting project.

The Learning Context: Capstone Strategic Management Classroom

We sought to develop the APPLE Analysis, a pre-analytical frame of reference assignment, in the context of the undergraduate strategic management course, a 3-credit capstone semester-long course in a AASCB-accredited college of business in the Southeastern United States of America. The course includes 2,100 instructional minutes over 15 weeks with outside preparation and reading estimated at 2.5 hours per each instructional hour. A total of 5 – 8 sections of the course are taught each semester with approximately 30 students in each section. The course is taught by multiple instructors, each of whom have responsibility for all grading and teaching within their respective sections of the class, but all of whom cooperate to design the syllabus, major assignments, and grading assessment rubrics used in all sections of the course regardless of instructor. Each instructor teaches between 1 – 3 sections of the course each semester. In a commitment to continuous improvement, regular meetings are held before, during, and after the semester among these instructors to identify adjustments needed to the process, assignments, or grading rubrics. The course includes several assignments, of which participation is weighted at 14%, a team case presentation is weighted at 8%, an individual case analysis is weighted at 8%, quizzes for each section of the course are weighted at 24%, and an Educational Testing Service exit exam is weighted at 7%. The semester-long team consulting project is weighted at 39% of the overall course grade and serves as the application of all course content throughout the semester.

In this consulting project, students are formed into teams on the first day of class through exchanging information along several different focal criteria with the only constraints in team formation that they must reflect diversity in majors (e.g., management, finance, accounting, marketing, etc.) and that they must include 4 – 6 team members. Each team becomes a consulting

company providing a thorough analysis of the competitive environment and resource set of a focal company and must identify viable and strategically important comprehensive recommendations with attention to holistic implementation plans. Companies for the projects are chosen by the instructors from among publicly traded firms which are not currently experiencing bankruptcies or other significant disruptive or catastrophic strategic events and for which extensive information is available. Teams can choose from among the approved company list each semester, but each team has a different firm and industry within each classroom, and project focal companies are repeated for at least two years. Through a course handbook prepared by the instructors and used by all sections of the courses, students are provided with an extensive grading rubric for each of the deliverables that comprise the consulting project. Areas of assessment for each of the deliverables include analytical quality and comprehensiveness, referencing and support, and presentation components. The consulting project includes the following components:

- APPLE Analysis (5% of the course grade): This assignment required analysis of no more than 10 pages of text with supporting charts and graphs with content focused on operating scope, historical evolution, leadership, and performance to date of the focal firm. It was due in Week 5 of the course and it was evaluated and returned to student teams for input as part of the State of the Industry Report;
- State of the Industry Report (10% of the course grade): This assignment required written analysis of up to 20-pages of text, beginning with the revised APPLE Analysis, and also including insights from external analysis tools including current industry framework, Five Forces Analysis, competitor analysis, PESTLE Analysis, and Critical Change Summary. It was due in Week 8 of the course, and it was evaluated and returned to student teams for adjustment as part of the Final Consulting Project;
- Final Consulting Project (16% of course grade): This assignment required written analysis of up to 35 pages of text and often a total of 100 pages or more inclusive of all exhibits, tables, and graphs. It begins with the revised State of the Industry Report and also including insights from the internal environmental analysis tools, such as Strategic Profile Assessment, Internal Alignment Evaluation, Performance using the Balanced Scorecard, Resources and Capabilities Assessment, Comparative Strength Assessment, SWOT/TOWS and Recommendations and Implementation Plan. It was due in Week 14 of the course, and it was summarized in evaluation for final grading for the semester.
- Final Project Presentation (8% of the course grade): This assignment reflected a summary briefing from the student team to the class and invited dignitaries of the major points of analysis and future recommendation plans with implementation highlights. It occurred in the last week and a half after the Final Consulting Projects were submitted.

In semesters prior to the introduction of the APPLE Analysis, only the State of the Industry Report and Final Consulting Reports were required as written projects, along with the Final Presentation. As a result of the process of

continuous review we described above, including extensive examination of what was missing, inaccurate, or incomplete from student's assumption set or analyses in previous semesters and available research, we identified the attributes of the APPLE Analysis as an underlying set of core knowledge or frame of reference that would be valuable for them to have prior to their conducting the external and internal analyses and that would help deepen the appreciation and application of other analytical tools used in the course.

A Pre-Analytical Frame of Reference Assignment: The APPLE Analysis

When trying to arrive at a memorable mnemonic that captured the key areas in which previous students' frames of reference were problematic, the authors arrived at the acronym APPLE (Figure 1) (Areas of Operation, Profile of Present Strategic Posture, Performance Summary, Leadership and Governance Approach, and Essential Challenges) to engender in students an appreciation of present development and scope of the firm prior to the application of any traditional internal and external analytical tools. The APPLE Analysis therefore helps the student analyst to develop a metacognitive frame of reference that is germane to delivering a more in-depth strategic assessment of the firm using traditional tools. A mnemonic device was adopted because of its ease of recall among students (Laing, 2010).

Figure 1:

APPLE Analysis Components
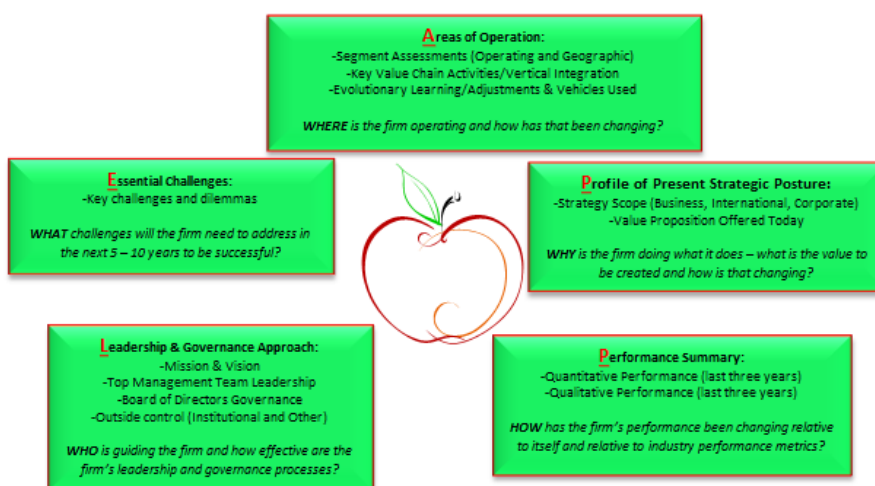
The following paragraphs describe the key focus of each segment of this preliminary APPLE Analysis as support for the student to develop a strong understanding of the historical evolution and present position of the firm. The APPLE Analysis examines five perspectives providing insight into the where, why, how and who questions that guide what should be done for the future of a firm. The process of strategic management is about understanding the frameworks and analyses such that one can manage both the art and science of strategic prescriptions effectively rather than just following the crowd (Maranville, 2011). This process then allows for the development of a clear

understanding of the "so what" interpretations that help students to arrive at meaningful and well-supported recommendations for the future direction.

Part I. Areas of Operation. T
o demonstrate that student analysts understand the target firm, they must develop clear appreciation of the scope of the firm's present activities, or WHERE it operates. To do so, one must focus on a summary of three perspectives detailed below to indicate the future potential for improvement and identify needed resources:

1. Key Activities and Product/Service Categories (A recognition of the dependence of the firm on operating segments from both the product and geographic perspectives);
2. Breadth and Depth of Major Value Chain Activities of the Firm (A recognition of the range of the firm's involvement in major value chain activities);
3. Evolutionary Adjustments of the Firm up to the Present (A recognition of major timelines and organizational learning – or mistakes – to the present).

Part II. Profile of the Firm's Present Strategic Posture.
After denoting the areas in which the firm operates (WHERE?), it is critical to explore WHY the firm is performing the activities in which it is currently engaged. The current strategic posture of the firm should provide a clear indication of why these activities of the firm are occurring. The firm's leadership develops strategies at different levels within the organization which have been traditionally illustrated as a pyramid. Our approach requires that the complexity of the firm be introduced at the outset of the course project so that students understand the interdependence of their thinking at the business level with potential resource demands or provisions at the corporate level of more complex firms (or lack of such resources in a very simple firm).

This assessment should include preliminary evaluations of strategic commitments from four perspectives: (1) corporate (2) business (3) functional and (4) international. A basic typing and identification of resource demands and interdependence stemming from these commitments is crucial as a foundation for being able to evaluate effectively the influence of more traditional external analytical tools.

Part III. Performance Summary.
Developing a perspective of how well the intended (WHY?) activities of the firm have delivered value requires the analyst to review the firm's performance. Assessments from multiple perspectives yield valuable insights that complement, or sometimes contradict, one another. The need for multiple perspectives was realized in the 1990s with the development of the Balanced Scorecard (Kaplan & Norton, 1992), a tool used by more than 70% of Fortune 500 companies to assess and manage strategic performance and increasing in its application (Rigby & Bilodeau, 2011). This approach is based on the belief that firm leadership cannot serve only one of its stakeholder groups at the expense of others and yet expect to maintain the commitment of all groups to the organization's future. Because undergraduate students have limited to no exposure to managing significant and complex stakeholder

needs, it is imperative that they learn to review performance through the lenses of these multiple stakeholder groups. To review and understand performance in these areas comprehensively, it is important to examine performance in at least the following ways:

1. More recent past performance over 3 – 5 years relative to self and industry averages using quantitative assessments; and

2. Consideration of service of stakeholder interests through evaluation of qualitative rankings and ratings by outside organizations. After calculating and discussing the insights from each of these analyses, the student should be able to summarize how effectively the firm has been able to deliver on the previously identified strategies relative to all its stakeholders to date. As a result, the student is adopting a broader platform that can more closely mimic the mental model adopted by organizational leaders with lengthier experience. Thus, the student analyst is better prepared to undertake the traditional external and internal analyses from the perspective of the top management level.

Part IV. Leadership and Governance.
While perspectives of WHAT, WHY, and HOW provide some insight into mental models of the firm's leadership, these activities are coordinated by those leaders. When performance from both a qualitative and quantitative perspective is positive, it is generally thought that strategic leadership is effective, but when there are demonstrated slips in performance, strategic leadership and/or overall board governance is questioned. A more holistic approach to effective governance views the process as the sum of the effectiveness of the firm's management of the often conflicting stakeholder demands that include both private and public sector influences (Turnbull, 1997; Kenny, 2013).

As governance is not covered until the later chapters of many strategic management textbooks (c.f., Chapter 12 of Thompson, Peteraf, Gamble, and Strickland (2014); Chapter 12 of Hitt, Ireland and Hoskisson, 2013), bringing to the forefront this basic understanding of these influences on strategic management decision making is important to developing the appropriate frame of reference for students to apply the analytical tools provided in the earlier chapters of these textbooks. It is also important to raise awareness of how the firm's critical leadership groups deploy resources and of how the various stakeholders groups are cooperated with and coordinated. The interaction of top management teams, boards of directors and outside controlling ownership positions is important in influencing how strategy is derived and implemented. Thus, it is critical to focus on effective practices and processes with each of these groups. Moreover, maintaining such a focus makes it possible to denote areas of concern and/or identify best practices that may create a differential advantage over other companies. Therefore, we concentrate on the most critical influencers of strategic direction in the firm and the course agreed upon by these leaders via the firm's vision and mission. As such, we ask student analysts to review potential areas of contribution and challenges for boards of directors, including the leadership backgrounds, expertise, tools, connections, and connectedness to the firm, as well as any undue influence that a board member could exhibit. Ultimately the student

analyst should summarize whether he /she believes that the firm's board of directors can provide effective fulfillment of these roles.

In addition to reviewing the oversight and resources provided by the board, increasing familiarity with the individual executives who lead a company is most helpful to understanding their motives and commitments to the organization over self. Review here should consist of backgrounds, experience, holdings in the company, among others. Ultimately the student analyst should reach a conclusion as to whether the firm's top management team composition provides effective strategic leadership and implementation for the firm's strategies.

Assessment of any control that can be exerted by outside or institutional investors is critical to evaluating the flexibility that top level managers have in driving strategic change. Over 60% of the stock of publicly traded firms in the United States is held by institutional investors such as pension funds, mutual funds among others, representing an increasing trend in the last few decades (Blume & Keim, 2008). In addition, powerful families (e.g. Tyson, Heinz, etc.) often hold a significant share of stock in what used to be private, family-owned companies that have now transitioned into publicly traded firms. Finally, individual investors, such as Carl Icahn in Clorox, may hold large ownership positions within individual firms. As such, these individuals or institutions may use their voting power to press the firm's leadership to make specific types of strategic decisions. The more concentrated the ownership, in individual hands or in the hands of institutional investors, the more likely that undue pressure can be exerted from these sources on decision making and processes within the firm to arrive at strategic outcomes desirable to these investor groups. Therefore, it is important to consider ownership concentration and the influence of outsiders.

Review of the organization's mission and values is also critical to applying later analytical tools, as some directions may not be a good fit with the mission or the mission itself may have to be adjusted to fit with evolving realities. This evaluation should include an assessment of the adequacy and appropriateness of each of these statements to clearly articulate and support the firm's stated direction. At the conclusion of the evaluation of each of these indicators of leadership and governance, analysts should provide a summary statement indicating how the assessments and analyses create an overall picture of the effectiveness of the current leadership and governance practices as they apply to the range of stakeholders the firm faces at present and whether they adequately prepare the firm for the long-term.

Part V. Essential Challenges. The APPLE Analysis ends with a consideration of WHAT to do about the current situation. On the basis of an accurate and complete assessment of the current scope of the firm and its evolution up to the present (Areas of Operation - WHERE), a clear consideration of the committed approaches that have led to those positions thus far (Profile of Competitive Strategies - WHY), recognition of the performance outcomes that have resulted to date (Performance Assessment – HOW) and explicit consideration of how the current leadership processes, practices and people have provided guidance to this process (Leadership and Governance – WHO), the student analyst is now ready to make some preliminary assessments

about the key challenges that face the firm at present. These issues should be stated as problems/issues the firm must address, not as suggestions for what it should do. Focus should be given to the most critical challenges. Since the first four areas of the APPLE Analysis have just provided an overview of the firm, the findings from these sectors should point to where some of these challenges lie and help to explicitly articulate a mental model of the firm's critical issues for future attention. We now turn to the task of determining whether this analysis tool resulted in important learning outcomes for students.

Student teams complete this analysis within the first five weeks of the 15 week course to establish a more grounded frame of reference of their focal firm. Assessment is done based on accuracy and comprehensiveness of coverage of the respective data, clarity of interpretation regarding each of the points of the APPLE Analysis, and overall presentation and referencing of the noted materials. Within 10 days, detailed feedback is provided to each team such that explicit adjustments can be made to the team's overall frame of reference for the firm and/or to specific points of understanding about critical firm evolutionary, performance, or leadership conditions.

Results and Discussion

Our initial expectation was that student teams' engagement in this exercise would enable each to have a more holistic appreciation of their project's focal company before they were faced with applying analytical tools taught in the strategic management course. As noted above, the first hypothesis sought to test whether the addition of a pre-analytical frame of reference assignment, such as the APPLE Analysis, was valuable as a way to change their own mental models by helping them incorporate more effectively course concepts. The addition of the APPLE Analysis prior to the application of more traditional external and internal environmental assessments provides student analysts with a pre-exposure to the company as a whole and a specific context within which to view course concepts discussed. However, we are also sensitive to adding additional assignments to an already full semester of work included in the course. We developed our own five-point Likert-style scales to assess this question as a part of an end-of-semester individual assessment administered to all 216 students enrolled in all sections of the course at the conclusion of the first semester in which the APPLE Analysis was implemented. Results from the first semester's application of this tool indicate that a strong majority of the 216 students (across 7 sections of a course taught by four different instructors) who worked through this APPLE Analysis assignment found it to be very valuable to their understanding of course concepts, with 74.8% reporting that it was very valuable or extremely valuable (a 4 or 5 on a 5-point Likert-style scale). Thus, there was support for Hypothesis 1. Students could also note any comments on any of the respective assignments of the course in the assessment. We did not require qualitative feedback on the assignments but a few of the students included further written comments about the support provided by the APPLE Analysis assignment, including: "prepared us for the caliber of work to be done," "helped us understand the firm as a whole," and "background information was very important to the process [of analysis]". No further frequency analysis was done on these written summaries as they were

limited in number. These outcomes were generally supportive of the tool as a way to help better establish a top-level executive mental model.

Second, we also wanted to understand whether there would be a quantifiable difference in the scores received by the student teams who worked on the complete live consulting report, of which the APPLE Analysis became the introductory component. As such, given that this preparatory work would establish a better grounded mental model, we expected that there is a higher likelihood that they will be better prepared to appreciate the insights derived from traditional external and internal analyses which are completed as a part of case studies and strategic management projects. To assess whether this outcome occurred, we needed to compare the results of team scores received in the semester before adoption to those after the tool's adoption. As three of the same professors taught multiple sections in both the semester before and after adoption and it was necessary to control for professor when completing the ANOVA on these team-level outcomes between the two semesters, we excluded students from the section in Spring 2012 taught by an instructor who had not taught the class in Fall 2011 from this analysis. Thus, we conducted an ANOVA on the variable of the final project score, controlling for professor and semester, with a total of 23 teams in the Fall Semester 2011 and 33 teams in the Spring Semester 2012 for the 3 professors who taught the course in both semesters. The results of the ANOVA conducted on the dependent variable of final project score, controlling for professor and semester, indicated preliminary support for Hypothesis 2 at the .10 level (F = 2.944; p = .092) (Table 1), and there was no interaction between professor and semester, which indicated that the direct effect of the inclusion of the APPLE Analysis was not impacted in its effect on the team final outcomes by the instructor's independent approaches to teaching and/or assessing the tool. This result speaks to the durability and ease of application of the tool as it was able to be implemented without any significant interaction effect through different professors. We used .10 as the level of significance given the preliminary development of this inquiry. We also observed that overall analytical work improved over previous semesters in both quality and depth of analysis which suggested that the APPLE Analysis aided in achieving course outcomes.

Table 1:
ANOVA results for the effect on team strategic management project scores of including APPLE Analysis, controlling for professor

Source	Type III Sum of Squares	DF	Mean Square	F	Sig.
Corrected Model	445.735[a]	5	89.147	2.681	.032
Intercept	322456.940	1	322456.940	9697.22	.000
Professor	274.572	2	137.286	4.129	.022
Semester	97.886	1	97.886	2.944	.092
Professor * Semester	27.137	2	13.568	.408	.667
Error	1662.626	50	33.253		
Total	417037.203	56			
Corrected Total	2108.361	55			

$R^2 = .211$; Adj. $R^2 = .133$

Conclusion

Thus, there is some evidence that the addition of the APPLE Analysis contributed to the improvement of student learning outcomes, concept familiarity and depth of analytical reasoning in the strategic management course. The majority of students in the course believed that the APPLE Analysis helped them understand course concepts. These preliminary results support the benefits of metacognitive thinking about thinking strategically (Flavell, 1979) and reinforce a benefit to the outcomes of the analyses and resulting recommendations based on this metacognitive exercise in support of Lee (2011). The APPLE Analysis also supports a more comprehensive frame of reference (validated through instructor review) on the part of the student team before the team employs the analytical tools and develops recommendations, which supports more effective critical thinking as noted by Lewis (2011). The results therefore validate the utility of continuing to use the APPLE Analysis as an important exposure tool to the student teams before conducting strategic analyses. As we seek to help student teams adopt a CEO's perspective in their analyses, we must be sure that they have adequate frames of reference before they begin issuing ungrounded analyses or spouting recommendations that lack attentiveness to the conditions and historical evolution of the firm.

Future adaptations will explore the use of this assignment as a single deliverable to be provided to the course instructor or the breakout of the assignment into multiple pieces for even more timely feedback on the metacognitive development of the student analysts. Future research is also needed as to the durability of this learning over time periods beyond the course of the semester. Such efforts are critical to defining appropriate ways to engage students with strategic management concepts.

Limitations of this approach include its limited number of explanatory variables in explaining final grade performance. Future research can include a broader range of individual and group-level variables as well as group support variables to more fully explain outcome scores for the teams. Additionally, the tool was developed and applied at only one university. The broader application of the APPLE Analysis at other institutions will serve to vet its usefulness as a pre-frame of reference teaching tool outside of the control of its creators. Moreover, we must think critically about how to help students who lack significant work experience develop an appreciation of the complexity of decision making at the top of a firm as more and more often they are being asked to co-create the strategic management course experience through authentic projects (Lee, 2012). This tool represents one step in that direction.

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